

In the Specification

Please amend the specification of this application as follows:

Rewrite the paragraph at page 1, line 1 as follows:

~~--FIELD OF THE INVENTION~~ FIELD OF THE INVENTION--

A2

Rewrite the paragraph at page 1, line 6 as follows:

~~--BACKGROUND OF THE INVENTION~~ BACKGROUND OF THE INVENTION--

A3

Rewrite the paragraph at page 3, line 17 as follows:

~~--SUMMARY OF THE INVENTION~~ SUMMARY OF THE INVENTION--

A4

Rewrite the paragraph at page 7, line 24 as follows:

~~--BRIEF DESCRIPTION OF THE DRAWINGS~~ BRIEF DESCRIPTION OF THE  
DRAWINGS--

A5

Rewrite the paragraph at page 8, lines 24 to 25 as follows:

A6 --Fig. 12 is a block diagram of a  $\oplus$  S execution unit group of  
the DSP core of Fig. 2;--

Rewrite the paragraph at page 10, line 1 as follows:

A7 ~~--DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS~~ DETAILED  
DESCRIPTION OF THE PREFERRED EMBODIMENTS--

Rewrite the paragraph at page 23, lines 3 to 27 as follows:

A8 --Fig 12 is a top level block diagram of S unit group 82, which  
is optimized to handle shifting, rotating, and Boolean operations,  
although hardware is available for a limited set of add and  
subtract operations. S unit group 82 is unique in that most of the  
hardware can be directly controlled by the programmer. S unit  
group 82 has two more read ports than the A and C unit groups, thus

A8

permitting instructions to operate on up to four source registers, selected through input muxes 144, 146, 161, and 163. Similar to the A and C unit groups, the primary execution functionality is performed in the Execute cycle of the design. S unit group 82 has two major functional units: 32-bit S adder unit 156, and S rotate/Boolean unit 165. S rotate/Boolean unit 165 includes S rotator unit 158, S mask generator unit 160, S bit replicate unit 167, S ~~unpack/sign~~ unpack/sign extend unit 169, and S logical unit 162. The outputs from S rotator unit 158, S mask generator unit 160, S bit replicate unit 167, and S ~~unpack/sign~~ unpack/sign extend unit 169 are forwarded to S logical unit 162. The various functional units that make up S rotate/Boolean unit 165 can be utilized in combination to make S unit group 82 capable of handling very complex Boolean operations. Finally, result mux 148 selects an output from one of the two major functional units, S adder unit 156 and S rotate/Boolean unit 165, for forwarding to register file 76.--

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Rewrite the paragraph at page 37, lines 21 to 25 as follows:

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--ADD .A1X A0,B1,A1 ; ** Sequence Allowed **
|| SUB .C1X A2,B1,A3 ;Because all 4 units in datapath A
read                               ;read
|| SHL .S1X A4,B1,A5 ;the same cross-file operand B1.
|| MPY .M1X A6,B1,A7 ;--
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